

Procurement Card Cost Benefit Analysis

Final Report

Dated July 16, 1998

Purpose:

The purpose of this analysis is to determine the cost effectiveness of procurement card purchasing for Fairfax County.

Background:

In 1995, the Department of Purchasing and Supply Management (DPSM) initiated a pilot procurement card program with our current contractor, Corestates Bank, and several County agencies, including Fairfax County Public Schools (FCPS). The pilot program proved very successful and in November 1997, the program was opened to all County agencies. Since then eight additional agencies have joined the program, bringing the total number of participating agencies to eighteen.

In an audit report dated November 1997, Internal Audit reported a satisfactory finding for the program and directed DPSM to prepare a cost benefit analysis of card use. In February 1998, upon Internal Audit approval of the plan, analysis work began.

Analysis Objective:

The procurement card is intended for the purchase of low dollar value goods and services. The County's single transaction limitation is \$1,000, meaning each purchase cannot exceed that amount. (Note: FCPS's single transaction limitation is generally \$5,000, with no limitation for the purchase of textbooks.) Agencies use the procurement card as an alternative to placing small purchase orders(SO) or using petty cash.

Through discussion with user agencies, we determined that the majority of procurement card purchases replace use of an SO. Based on that determination, the objective of our analysis was to determine the most cost effective way to make a low dollar value purchase - the procurement card or the SO.

Cost Survey:

To meet our objective, we developed a survey which tracks the costs of making a procurement card purchase and the costs of making a purchase through the traditional Purchase Request(PR)/Small Purchase Order (SO) process. The survey asked each agency involved in the purchasing and payment process to determine their costs at each step of the process. The agencies surveyed were DPSM, FCPS Supply Operations, Office of Finance, FCPS Department of Financial Services (DOFS), the Department of Information Technology (DIT) and several user agencies.

The survey tracks costs from the point just after source selection when the user has determined *what* product or service will be purchased and from *whom* (the vendor). The survey strives to answer the

question, "If I know what product I want and where I want to buy it, what is the most cost effective way to purchase and pay for it, the procurement card or an SO?"

User Agency Participants:

Based upon average card usage for the second quarter of FY 1998 the following eight user agencies were chosen to participate in the study. Each agency represents a different usage level.

Agency	Average Monthly Volume
FCPS	\$372,141
Park Authority	\$ 37,916
Police Department	\$ 25,957
Facilities Management Division	\$ 10,583
Fire & Rescue	\$ 2,627
Office of Finance	\$ 2,142
P&SMA	\$ 1,236
Clerk to the Board of Supervisors	\$ 705

Costs for User Agencies:

Each of the above user agencies was asked to compute their cost for each step performed to make a purchase with the procurement card and to make a purchase using an SO. Because County procurement card rules allow each agency to develop their own procedures, within County guidelines, procurement card procedures vary somewhat from agency to agency. SO procedures also vary from agency to agency, but not as widely as procurement card procedures.

User Agencies were asked to compute their costs for the following areas:

■ Procurement Card Costs

- Ordering Costs - the costs to complete pre-purchase paperwork (if required by the agency), obtain any required pre-purchase approvals, and place the order with the vendor.
- Administrative Costs - the costs to administer the purchase (check funding, collect receipts, complete log), reconcile bank billing, and FAMIS reconciliation and distribution.

■ SO Costs

- Ordering Costs - the costs to complete pre-purchase paperwork (if required by the agency) obtain approvals, input and approval of CASPS document and distribute of SO to vendor.

- Receiving and Invoice Processing Costs - the costs to input and approve the receiving report through CASPS, and the cost to input invoice (if applicable) or prepare paperwork to forward to OF for invoice processing.
- Administration - the costs to reconcile purchases to FAMIS reports.

Financial Processing Costs:

Both OF and FCPS DOFS were asked to compute their costs for each step performed to process payment of procurement card billing and to process payment of an invoice for an SO. Again, procedures varied somewhat between these two agencies, but steps are similar.

- Procurement Card Costs - receive bank billing, run and review appropriate reports, and cut and distribute checks (OF) or prepare wire transfer (DOFS).
- SO Costs - input of invoice (when not performed at the agency level), review against appropriate reports, and cut and distribute checks.

Program Administration Costs:

DPSM, FCPS Office of Supply Operations and FCPS DOFS were asked to compute costs for *direct* support of the procurement card program or SO process. General overhead support costs were not included in the survey for either purchasing method. Procurement card administration differs from FCPS to County. DPSM is the procurement card administrator for the County and DOFS is the procurement card administrator for FCPS. FCPS Office of Supply Operations does not perform card administration.

Systems Costs:

In the early stages of the analysis, DIT was asked to compute the costs incurred for the County and Schools purchasing and financial systems to process the applicable transactions. DIT staff advised us that they currently had no methodology to determine and assign the appropriate costs and that, even if those costs were captured, they would represent a very small portion of the total processing costs of either procurement card or SO purchases. Thus, systems costs were not included in this analysis.

Cost Elements NOT Included in the Analysis:

For various reasons discussed below, the following cost elements were NOT tracked by the survey or included in the computation of cost for the procurement card or SO.

- General Overhead

The general overhead of both County and FCPS purchasing and financial functions supports both procurement card and SO purchasing. Overhead activities allow user agencies to effectively purchase with either method. However, it is very difficult to accurately assign a portion of these general overhead costs to either.

As stated earlier, the procurement card is intended for purchase of low dollar value goods and services. In general, this type of purchase is not as extensively supported by the purchasing function as are more complex or expensive purchases that require contract action. Equitable comparison of a procurement card transaction to an SO designed to purchase a similar product must assume that overhead to support that SO would be low as well.

To keep the cost benefit analysis uncomplicated and to avoid arbitrary apportioning of general overhead costs, general overhead was not included in this survey.

■ Source Selection

Source selection, for purposes of this analysis, is the selection of a source, or vendor, from which to purchase the desired product or service. In general, source selection for low dollar value purchases does not include formal or involved solicitation methods. For purchases of \$1000 or less, users are encouraged but not required to get competition.

At this dollar level, source selection is generally done by the user agency. The cost of source selection may vary a great deal from agency to agency or from purchase to purchase, within the same agency. In some cases, higher salaried program staff will do the legwork necessary to find appropriate vendors and compete the item. For other purchases, clerical personnel may simply place an order with an established vendor.

Because the analysis compares methods for purchasing low dollar value items, we assumed that source selection would be done in the same manner whether the procurement card or an SO were used for the actual purchase. Because of this and because of the difficulty associated with computing an average cost for a procedure that varies so greatly from purchase to purchase, source selection cost was not included in the survey.

■ Vendor Issues

Vendor issues costs are those costs incurred by user agencies, DPSM, FCPS Supply Services, OF, and FCPS DOFS to deal with vendors regarding such issues as incorrect billing on the procurement card or vendor payment inquiries for the SO..

We originally intended to capture these costs; however, because of Accounts Payable problems incurred during the recent CASPS/FAMIS startup period, vendor payment

inquiries were intense at the time the survey was completed. We felt that vendor issues costs computed at that time would not accurately reflect the true cost of processing vendor inquiries, so the cost analysis did not include vendor issues costs. Because vendor inquiries are received by user agencies, DPSM, FCPS Supply Services, FCPS DOFS and OF, it was also difficult to accurately track all costs involved.

Based on general responses from the user agencies, and the fact that vendors are paid almost immediately for procurement card purchases, we suspect that our cost would be lower for the procurement card.

- System Costs - See paragraph entitled "Systems Costs."

Survey Results:

The results of the survey showed that the average cost to make a procurement card purchase is \$10.60 and the average cost to make a similar purchase using an SO is \$20.64 (See Appendix A). Purchasing with the procurement card instead of using an SO saves the County an average of \$10.04, or 48.6% per transaction. Cost savings varied from agency to agency, running from 32.2% to 69.8%, with an exception for FCPS discussed below.

Even with the average cost savings to the County at almost 49%, there was one agency (FCPS) whose survey results showed that using an SO cost 12% *less* than using the procurement card. School's cost to complete a procurement card transaction, which was calculated by FCPS Department of Financial Services based on performance by an average school staffer, was \$13.21. The cost to process a similar SO was \$11.77; however, the SO cost was calculated by FCPS Office of Supply Operations and was based on performance by a proficient staffer who regularly performed the SO process. It does not necessarily represent the cost that the average FCPS employee incurs to process an SO.

Considering the survey results from agencies at all stages of the procurement process - user agencies, DPSM/Supply Operations, and OF/DOFS, by far the largest cost element in procurement card or SO processing was the costs incurred by the user agencies. For procurement card processing, user agency costs averaged 95% of total cost. For SO processing, user agency costs averaged 87% of total cost (when adjusted for invoice processing). Part of the reason for this result, however, is our decision to exclude general overhead costs incurred by the purchasing and financial agencies to support all purchasing and payment activities.

Procurement Card Results:

As expected, the cost of making a procurement card purchase varied widely from agency to agency, from a low of \$8.24 to a high of \$15.34. There was no correlation between the number of transactions made and the total cost per transaction. In some cases, higher than average costs appear related to the degree of internal control exerted over purchase procedures.

As stated earlier, the bulk of procurement card costs are incurred at the agency level. Agency card administration tasks such as cost distribution and FAMIS reconciliation are generally performed once a month for all transactions that occurred in the period. Agencies estimated the cost of the total time spent for these activities and then divided by total number of transactions, to compute a cost per transaction. Agencies reported that although they made their "best guess" for the average cost of these tasks, time varied greatly from period to period depending on how many problem transactions occurred within that period.

Procurement card financial processing (OF/DOFS) costs averaged 1% of total processing costs, with the per transaction cost for Schools less than the County's. Financial processing is also a task that is performed at one time for a large group of transactions. Total costs were tracked for processing an average billing and then divided by the number of transactions processed to assign a per transaction cost. With an average of 431 transactions per bill, compared to 110 per bill for the County, Schools process a larger number of transactions at one time. We believe that as the number of County transactions increase per billing period, total processing costs will rise incrementally but County cost per transaction will decrease.

Program administration (DPSM/DOFS) time for the procurement card program averaged 4% of total processing costs, again with School's cost less than the County's. To compute this cost, the total estimated time spent on direct program administration was divided by the number of transactions in the period. As is the case with financial processing, we believe that as the number of procurement card transactions increase, cost per transaction will decrease for the County. The County also rolled out the procurement card program Countywide during this fiscal year, thus increasing the time spent helping new agencies with start-up activities such as training and card application.

Small Purchase Order Results:

Procedures for processing an SO also vary from agency to agency. Although not required by DPSM procedures, most agencies have some type of pre-purchase paperwork and approvals that occur prior to input of an SO into the system. Some agencies process their own invoices, some do not. The cost of making a purchase by SO ran from a low of \$11.77 to a high of \$37.84. As with the procurement card, cost did not seem affected by volume of purchases made as much as degree of control, with the more highly controlled processes experiencing the highest costs.

As with the procurement card, user agency administration cost was calculated by dividing the total amount of time spent on such activities by the total documents processed to compute a cost per SO. Again, agencies reported that although they have computed an average cost based on the average time spent, costs may vary greatly from that average.

Financial processing(OF/DOFS)costs for an SO represented a significantly higher percentage of total cost than the procurement card. When adjusted to include invoice processing for all agencies, financial processing cost added an average of \$2.13 or 10% to the cost of an SO, while

procurement card financial processing was \$.12 or 1%. These costs reflect the fact that many procurement card transactions are processed and paid for in one batch as opposed to an SO which is processed and generally paid for individually.

Direct program administration (DPSM) time for the SO was difficult to track, as there is not a direct administrator like there is for the procurement card. We estimated the cost for an applicable portion of the "Help Desk" staff and the cost for SO audit performed periodically by DPSM (See Appendix D). Direct SO administration cost of \$.51 was added to SO costs for all agencies, including FCPS. It represents approximately 3% of the cost to process an SO.

Unquantifiable Benefits - Procurement Card:

Survey respondents were also asked to tell us about any benefits of the SO or procurement card which they were unable to quantify for the survey. All agency responses applied to the procurement card and are summarized below:

- Prompt receipt of goods - Prompt receipt of goods through procurement card purchasing allows staff to complete the task at hand and move on to other tasks, thus offering more prompt and efficient customer service.
- Reduction of travel time - FMD noted that the procurement card allowed field service workers to buy parts necessary to complete a job immediately, rather than return to the warehouse to get the part and return to the job site to complete the job. FMD was unable to quantify this cost savings because it is used on an emergency rather than a routine basis.
- Faster job completion - Related to the two advantages stated above, faster job completion allows agency's *customers* to get back to business more quickly and efficiently because their need for service has been met.
- Reduction in cost of goods - One agency noted that the procurement card allowed them to take advantage of loss leaders at retail stores and to purchase goods over the telephone and Internet from vendors who offered advantageous pricing but would not accept an SO.
- Freedom of vendor selection - Generally, a greater number of vendors will accept procurement cards than will accept Small Purchase Orders.
- Boost in staff morale - One agency noted that procurement card purchasing produced a boost in staff morale because staff had greater control over the purchasing process. Staff could purchase goods immediately in response to an urgent agency requirement. In addition, staff was not required to anticipate every need well in advance, which can be very difficult and time consuming.

Conclusions:

1. For most user agencies, purchasing by procurement card instead of an SO will save both time and money when buying low dollar value goods and services. Use of the procurement card will also lower financial processing costs. It is anticipated that as procurement card volume increases, cost per transaction will decrease.

It should be noted that because the objective of the survey was to determine whether the procurement card or SO is the most cost effective procurement method, the results of the survey reflect the difference in *comparative* costs for the two methods. Because not all costs incurred in either method were included in this survey for various reasons (See paragraph entitled "Cost Elements NOT Included in the Analysis") the cost figures calculated represent a relatively accurate cost for *direct* processing and payment, but do not represent total costs.

2. User agencies bear the bulk of the direct processing costs involved for both the procurement card and the SO. It appears that the cost of either method is affected by the degree of control exerted over the process. Because the procurement card does not offer the same automatic tracking and controls available through the purchasing/financial system, agencies must exercise strong internal controls.

3. In addition to cost savings, there are also other valuable benefits of procurement card use, such as increased empowerment of user agencies. See paragraph entitled "Unquantifiable Benefits - Procurement Card."

Cost Benefit Analysis - Procurement Card vs Small Purchase Order

COST ANALYSIS SUMMARY

Appendix A

Procurement Card

Cost per Transaction (Single Purchase at \$1000 or less)

	Agency A	Agency B	Agency C	Agency D	Agency E	Agency F	Agency G	Average
Average Transactions Per Month	6	6	11	60	165	1866	620	
Total Agency Cost/Trans.	\$14.74	\$7.99	\$7.64	\$8.01	\$10.84	\$12.91	\$8.16	\$10.04
Financial Processing Cost	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12	\$0.09	\$0.12	\$0.11
Card Administration Cost	\$0.48	\$0.48	\$0.48	\$0.48	\$0.48	\$0.21	\$0.48	\$0.44
Total Cost/Transaction	\$15.34	\$8.59	\$8.24	\$8.61	\$11.44	\$13.21	\$8.76	\$10.60

Small Purchase Order

Cost to Process a Single Small Purchase Order (at \$1000 or less)

	Agency A	Agency B	Agency C	Agency D	Agency E	Agency F	Agency G	Average
Average SOs per month	43	2	7	33	36	582	152	
Total Agency Cost/SO	\$18.41	\$14.72	\$14.74	\$14.84	\$33.61	\$10.24	\$20.73	\$18.18
Financial Processing Cost	\$0.47	\$0.47	\$0.47	\$0.47	\$0.47	\$1.02	\$0.47	\$0.55
Invoice Processing (if applicable)*	\$3.25	\$0.00	\$3.25	\$0.00	\$3.25	\$0.00	\$0.00	\$1.39
Program Administration Cost	\$0.51	\$0.51	\$0.51	\$0.51	\$0.51	\$0.51	\$0.51	\$0.51
Total Cost/SO	\$22.64	\$15.70	\$18.97	\$15.82	\$37.84	\$11.77	\$21.71	\$20.64

*Invoice processing costs for agencies with centralized payment of invoices were calculated by OF and shown here.

Invoice processing costs for agencies with decentralized payment of invoices are included as an Agency Cost and show on Appendix A

Comparison of Procurement Card Purchase to Small Purchase Order

Cost Savings (\$)	\$7.30	\$7.11	\$10.73	\$7.21	\$26.40	(\$1.45)	\$12.95	\$10.04
Cost Savings (%)	32.2%	45.3%	56.6%	45.6%	69.8%	-12.3%	59.7%	48.6%

Cost Benefit Analysis - Procurement Card vs Small Purchase Order
 USER AGENCY COSTS
 Appendix B

Procurement Card

Cost per Transaction (Single Purchase at \$1000 or less)

	Agency A	Agency B	Agency C	Agency D	Agency E	Agency F	Agency G	Average
Average Transactions Per Month	6	6	11	60	165	1866	620	
User Agency Costs								
Ordering:								
Pre-Purchase Paperwork	\$1.35	\$1.40	\$0.00	\$3.00	\$3.44	\$3.63	\$0.00	\$1.83
Placement of Order	\$0.58	\$1.22	\$2.17	\$1.50	\$4.40	\$5.45	\$2.32	\$2.52
Total Ordering Cost	\$1.93	\$2.62	\$2.17	\$4.50	\$7.84	\$9.08	\$2.32	\$4.35
Card Administration (agency)								
Administer Purchase	\$6.37	\$0.84	\$4.33	\$2.40	\$1.58	\$3.06	\$3.49	\$3.15
Reconciling Corestates Bill	\$3.22	\$1.03	\$0.38	\$0.80	\$1.21	\$0.26	\$1.43	\$1.19
Cost Distribution (in FAMIS)	\$1.61	\$1.17	\$0.38	\$0.00	\$0.16	\$0.00	\$0.61	\$0.56
FAMIS Accounting	\$1.61	\$2.33	\$0.38	\$0.31	\$0.05	\$0.51	\$0.31	\$0.79
Total Card Admin. Cost	\$12.81	\$5.37	\$5.47	\$3.51	\$3.00	\$3.83	\$5.84	\$5.69
Total Agency Cost/Trans.	\$14.74	\$7.99	\$7.64	\$8.01	\$10.84	\$12.91	\$8.16	\$10.04

Small Purchase Order

Cost to Process a Single Small Purchase Order (at \$1000 or less)

	Agency A	Agency B	Agency C	Agency D	Agency E	Agency F	Agency G	Average
Average SOs per month	43	2	7	33	36	582	152	
User Agency Costs								
Ordering:								
Pre-Purchase Paperwork	\$1.35	\$2.80	\$0.00	\$1.70	\$12.61	\$4.65	\$4.94	\$4.01
Creating SO	\$4.83	\$3.50	\$4.61	\$1.70	\$3.65	\$2.48	\$4.64	\$3.63
CASPS Approval & Routing	\$0.96	\$1.17	\$0.00	\$0.00	\$3.03	\$0.25	\$0.63	\$0.86
Print, distribute & file SO	\$3.22	\$1.17	\$4.61	\$1.70	\$1.17	\$0.15	\$2.33	\$2.05
Place order with vendor	\$0.00	\$1.17	\$0.00	\$1.70	\$0.00	\$0.00	\$0.00	\$0.41
Total Ordering Cost	\$10.36	\$9.81	\$9.22	\$6.80	\$20.46	\$7.53	\$12.54	\$10.96
Receiving & Invoice Processing								
Input Receiving Report	\$1.61	\$1.40	\$1.84	\$1.34	\$3.84	\$0.32	\$1.85	\$1.74
Receiving Report A&R	\$0.00	\$0.00	\$0.00	\$0.00	\$3.03	\$0.00	\$0.52	\$0.51
Input Invoice into CASPS*	\$0.00	\$1.17	\$0.00	\$1.75	\$0.00	\$0.94	\$1.33	\$0.74
Prepare & send doc. to Finance	\$3.22	\$1.17	\$1.84	\$3.55	\$3.65	\$0.00	\$0.00	\$1.92
Total Processing Cost	\$4.83	\$3.74	\$3.68	\$6.64	\$10.52	\$1.26	\$3.70	\$4.91
Administration (Agency)								
Reconcile to FAMIS	\$3.22	\$1.17	\$1.84	\$1.40	\$2.63	\$1.45	\$4.49	\$2.31
Total Admin. Cost	\$3.22	\$1.17	\$1.84	\$1.40	\$2.63	\$1.45	\$4.49	\$2.31
Total Agency Cost/SO	\$18.41	\$14.72	\$14.74	\$14.84	\$33.61	\$10.24	\$20.73	\$18.18

*For agencies that have centralized invoice input (performed by OF), cost is included in Financial Processing.

Cost Benefit Analysis - Procurement Card vs Small Purchase Order

FINANCIAL PROCESSING COSTS -

Office of Finance, FCPS Department of Financial Services

ADMINISTRATION COSTS -

DPSM, FCPS Department of Financial Services, FCPS Supply Services

Appendix C

Procurement Card

FCPS

County

Average Transactions Per Week 431
Cost/Trans

Average Transactions per run 110
Cost/Trans

Financial Processing Activities (DOFS)

Download from CS bb	\$0.024
Review download transactions	\$0.031
Prepare/Transmit Wire Transfer Req	\$0.010
Prepare Journal Entry	\$0.003
Prepare packet for Accounting	\$0.007
Process & post to FAMIS	\$0.016
Update Corestates spreadsheet	\$0.003
Total Processing Cost	\$0.094

Financial Processing Activities (OF)

Receive billing & run report	0
Review/correct report errors	\$0.060
Distribute paper reports	\$0.030
Compare report to prelist	\$0.020
Cut and distribute checks	\$0.009

Total Processing Time \$0.119

Card Administration (DOFS)

Submit new enrollment forms	\$0.020
Make changes to card detail	\$0.007
Resolve rejected transactions	\$0.068
Audit transaction documentation	\$0.118
Total Administrative Time	\$0.213

Card Administration (P&SMA)

Train cardholders, submit forms,
resolve problems, audit

Total Administrative Time \$0.481

Small Purchase Order

Average SOs/POs processed per day 98.4
Cost/Trans

Average SOs/POs processed per run 600
Cost/Trans

Processing Activities (DOFS)

Mismatch queue	\$0.024
Create error report	\$0.075
Review vouchers vs Prelist report	\$0.224
Create check register	\$0.448
Create "held check" report	\$0.075
Prepare/transmit check info to OF	\$0.075
Reconcile payment to FAMIS	\$0.002
Create vendor folder, store & archive	\$0.012
Cut & distribute checks (OF)	\$0.080

Processing Activities

Mismatch queue	\$0.325
Compare vp to pre-list	\$0.033
Create check register	\$0.030
Reconcile check reg. to prel	\$0.006

Total Financial Processing Cost \$1.015

Cut & distribute checks \$0.080
Total Financial Processing Cost - \$0.474
(without invoice processing)

Invoice Processing

Performed by individual schools

Invoice Processing (OF)

Input invoice into CASPS	2.21
Approval & Routing	1.04
Total Invoice Processing Cost	3.25

SO Administration (FCPS Supply Services/P&SMA)

Admin time spent directly in
support of SO - Help Desk, audit **\$0.505**

Card Administration (P&SMA)

Admin time spent directly in
support of SO - Help Desk, audit **\$0.505**